

Appl. No. 07/330,446
Amendment dated August 13, 2004
Reply to Final Office Action of March 8, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims

1. (Previously Amended) A pure peptide product derived from human glioma cells exhibiting monocyte chemotactic activity at a concentration of 1 nM; said peptide product exhibiting an estimated molecular mass of about 8,400 daltons.
2. (Currently Amended) The pure peptide product of claim 1 obtained by the process comprising the steps of:
 - (I) culturing live cells derived from:
 - (a) human glioma cell line U-105MG, or
 - (b) human peripheral blood mononuclear leukocytes, in an appropriate growth medium
 - (II) separating said cells from said growth medium;
 - (III) chromatographing said growth medium on an Orange-A Sepharose column, utilizing an appropriate solvent, and collecting the fractions which contain the desired peptides;
 - (IV) chromatographing said peptide containing fraction obtained in Step III on an appropriate cation-exchange HPLC column, utilizing appropriate solvents, and collecting the fractions which contain said desired peptides;
 - (V) chromatographing said peptide containing fractions obtained in Step IV on a reverse phase HPLC column, utilizing an appropriate solvent, and collecting the fractions containing said desired peptides; and
 - (VI) removing liquid from said peptide containing fractions obtained in Step V, to give said peptide product as in a solid form.

3. (Previously Amended) The pure peptide product of claim 1, which is derived from glioma cell line U-105MG, said peptide product comprising an amino acid

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sequence of:

1 10 20 30
XPDAINAPVTCCYNFTNRKISVQRLASYRRITSSKCPKE

40 50 60 70
AVIFKTIVAKEICADPKQKWVQDSMDHLDKQTQTPKT

wherein:

A is Alanine;
C is Cysteine;
D is Aspartic Acid;
E is Glutamic Acid;
F is Phenylalanine;
H is Histidine;
I is Isoleucine;
K is Lysine;
L is Leucine;
M is Methionine;
N is Asparagine;
P is Proline;
Q is Glutamine;
R is Arginine;
S is Serine;
T is Threonine;
V is Valine;
W is Tryptophan;
Y is Tyrosine; and
X is pyroglutamic acid.

4. (original) A method of preparing a pure peptide product, having a molecular weight of about 8,400 daltons, and exhibiting optimal monocyte chemotactic activity at a concentration of 1 nM ; said method comprising the steps of:

- (I) culturing live cells derived from:
 - (a) human glioma cell line U-105MG, or
 - (b) human peripheral blood mononuclear leukocytes, in an appropriate growth medium;
- (II) separating said cells from said growth medium;

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(III) chromatographing said growth medium on an Orange-A Sepharose column, utilizing an appropriate solvent, and collecting the fractions which contain the desired peptides;

(IV) chromatographing said peptide containing fractions obtained in Step III on an appropriate cation-exchange HPLC column, utilizing appropriate solvents, and collecting the fractions which contain said desired peptides;

(V) chromatographing said peptide containing fraction obtained in Step IV on a reverse phase HPLC column, utilizing an appropriate solvent, and collecting the fractions containing said desired peptides; and

(VI) removing liquids from said peptide containing fractions obtained in Step V, to give said peptide product in a solid form.

5. (Cancelled)

6. (Original) A method of treating neoplasms in a human which comprises administering to a human an effective neoplasm treating amount of the purified peptide product of claim 1.

7. (Original) A pharmaceutical composition comprising:
the pure peptide product of claim 1; and
a pharmaceutically acceptable carrier therefor.

8-19. (Cancelled)

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20. (Currently Amended) A pure peptide product exhibiting optimal monocyte chemotactic activity at a concentration of 1 nM, said peptide product exhibiting an estimated molecular mass of about 8,400 daltons and comprising an amino acid sequence of:

1 10 20 30
XPDAINAPVTCCYNFTNRKISVQRLASYRRITSSKCPKE

40 50 60 70
AVIFKTIVAKEICADPKQKWVQDSMDHLDKQTQTPKT

wherein:

A is Alanine;
C is Cysteine;
D is Aspartic Acid;
E is Glutamic Acid;
F is Phenylalanine;
H is Histidine;
I is Isoleucine;
K is Lysine;
L is Leucine;
M is Methionine;
N is Asparagine;
P is Proline;
Q is Glutamine;
R is Arginine
S is Serine;
T is Threonine;
V is Valine;
W is Tryptophan;
Y is Tyrosine; and
X is pyroglutamic acid;

or a substantially homologous amino acid sequence thereto conservative amino acid substitutions thereof.

21-25. (Cancelled)

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26. (New) A recombinant peptide comprising the amino acid sequence:

1 10 20 30
QPDAINAPVTCCYNFTNRKISVQLASYRRITSSKCPKE

40 50 60 70
AVIFKTIVAKEICADPKQKWVQDSMDHLDKQTQTPKT

wherein:

A is Alanine;
C is Cysteine;
D is Aspartic Acid;
E is Glutamic Acid;
F is Phenylalanine;
H is Histidine;
I is Isoleucine;
K is Lysine;
L is Leucine;
M is Methionine;
N is Asparagine;
P is Proline;
Q is Glutamine;
R is Arginine
S is Serine;
T is Threonine;
V is Valine;
W is Tryptophan; and
Y is Tyrosine;

or conservative amino acid substitutions thereof.

27. (New) An isolated peptide comprising an amino acid sequence encoded by a nucleic acid sequence having a sequence of:

CAG CCA GAT GCA ATC AAT GCC CCA GTC ACC TGC TGT TAT AAC TTC
ACC AAT AGG AAG ATC TCA GTG CAG AGG CTC GCG AGC TAT AGA AGA
ATC ACC AGC AGC AAG TGT CCC AAA GAA GCT GTG ATC TTC AAG ACC
ATT GTG GCC AAG GAG ATC TGT GCT GAC CCC AAG CAG AAG TGG GTT

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CAG GAT TCC ATG GAC CAC CTG GAC AAG CAA ACC CAA ACT CCG AAG
ACT

28. (New) An isolated peptide obtained by a process comprising the steps of:
(I) culturing a host cell transformed with a nucleic acid encoding a polypeptide comprising the amino acid sequence:

1 10 20 30
QPDAINAPVTCCYNFTNRKISVQRLASYRRITSSKCPKE

40 50 60 70
AVIFKTIVAKEICADPKQKWVQDSMDHLDKQTQTPKT

wherein:

A is Alanine;
C is Cysteine;
D is Aspartic Acid;
E is Glutamic Acid;
F is Phenylalanine;
H is Histidine;
I is Isoleucine;
K is Lysine;
L is Leucine;
M is Methionine;
N is Asparagine;
P is Proline;
Q is Glutamine;
R is Arginine
S is Serine;
T is Threonine;
V is Valine;
W is Tryptophan; and
Y is Tyrosine;

or conservative amino acid substitutions thereof.

- (II) recovering the polypeptide from the cell.

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29. (New) A method of treating neoplasms in a human which comprises administering to a human an effective amount of the peptide of any of claims 26-28.

30. (New) A pharmaceutical composition comprising:
the peptide of any of claims 26-28; and
a pharmaceutically acceptable carrier therefor.